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**REACH CONFORMITY**



## EC DECLARATION OF CONFORMITY

This document is the conformity declaration concerning safety switches and relays, conform to the Machine Directive 2006/42/CE and the EMC Directive 2004/108/CE.

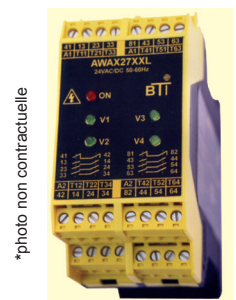
### ELECTROMECHANICAL SAFETY MODULES

Range	Standards	Approvals	Category ISO 13849-1
AWAX28XXL AWAX28XXLP	ISO 13849-1 / EN 60947-5-1 EN 61326-3-1 / EN 62061 UL508 NRNT NRNT7 C22.2 n°14-M91	CE	<div style="border: 1px solid black; padding: 5px;">           Performance Level (PL) = e            Safety category = 4 or SIL3            MTTFd = 75 years            DC = 99 %            CCF = 90 %            TM= 20 years         </div>

Test conditions :  
 Switching Current = DC13-5 A / 24 V or AC15-5 A / 250 V  
 Power Supply = 24 V PELV/SELV or 24 VAC  
 Ambient Temperature = +25 °C

Serial number coding & example  
 YEAR WEEK NAME OPERATOR / NAME TEST MANAGER POSITION  
 11 36 AB CD 03

Quality Management System : AB CERTIFICATION A879  
 Name of Technical authority : Christophe PAYS from COMITRONIC-BTI



This product range is intended to monitor an emergency stop or safety sensor. The safety modules is designed and manufactured following UL508 / CSA C22.2 regulation. Safety modules must be used following diagram and directives described in our data sheet.

Noisy le Grand, 22th sep. 2011  
 For BTI,  
 Mrs Michèle LEFOULON ,



# Technical datasheet AWAX28XXL

Thank you for your confidence in BTI products. This product has been designed and manufactured in compliance with the highest quality standards in our plant located in Marne La Vallée

## 1. Application field

The AWAX28XXL has been designed to monitor mechanical switches, switches using the process ACOTOM® (BTI's trademark), or the emergency push buttons with 2 NC lines at least. This module has 9 safety outputs (8 NO + 1 NC), each one with a switching capacity of AC1 8A/250V. The safety relay can be used in applications up to Kat4 PLe acc. EN ISO 13849 or Sil3 acc. EN 62061. The safety outputs of AWAX28XXL must be tested by the user in regular test intervals unless it is cyclically tested by the application itself where it is implemented. The test interval depends typically on the safety analysis of the global system where it is implemented. It is recommended to test the system at least once a year.

## 2. Mounting instructions

The user is to install external fuses acc. the wiring example. 45mm wide case mountable on a symmetrical DIN rail 35mm according to DIN 50022. The tightening couple of the terminals is 0.68 Nm. Use 60/75°C copper wire only. The maximum diameter of the wiring cable is 2.08mm² (14 AWG). To provide a sufficient protection for the operators against electrical shock, the complete wiring between the safety relay unit AWAX28XXL and all external elements (e.g. emergency stop buttons) has to be performed by cables with isolation which is dimensioned for a nominal voltage of 250V even if the nominal voltage on the cable itself is only 24Vac/dc. The safety relay is to be installed in an IP54 environment.

## 3. Operation mode

The module must be energised on A1 (+24VDC) and A2 A2(0V).  
 - In stand-by or in safety configuration :  
 Safety lines NO (13/14, 23/24, 33/34, 43/44, 53/54, 63/64, 73/74,83/84) are opened and LEDS V1 and V2 are OFF.

The mechanical switch or coded safety switch has 2 contacts which are wired as follow:

first contact between T11 and T12 and second contact between T21 and T22.  
 Polarity of the inputs :  
 To create a short-circuit, input T12 is positive and input T22 is negative. The crushing of the cable is immediately detected (2 µs) thanks to DLC (Electronic current-limiting circuit-breaker) of the AWAX28XXL.

Operating status :  
 The reset is done manually either by 1NO contact wired between C and V or automatically by using a shunt. To choose the reset mode, it is necessary to select « reset mode ».

- Selection of the reset mode :  
 wire SR1-SR2 = automatic reset (N1-N2 open)  
 wire N1-N2 = manual reset (SR1-SR2 open)  
 When there is no shunt (N1-N2 and SR1-SR2) and if you try to reset the system, the module detects the failure (NO open) and V1 switches ON. Take off the power, correct the wiring and energise again.

When the two shunts SR1-SR2 and N1-N2 are wired, the automatic mode is activated.

- NC line 91-92 :  
 Two configurations are available according to the module chosen. AWAX28XXL has one NC line redundant in serial. In case of failure, this line opens. The distinction between a regular STOP request and an unique failure is made.

AWAX28XXLP has one NC line redundant parallel. In case of failure this line closes. There is no distinction between a regular STOP request and an unique failure. The double failure of the line is showed.

- LED status display :  
 Red LED indicates that the power is on.  
 When AWAX28XXL is active LEDS V1 and V2 are lighting.  
 A failure on T11 – T12 switches off the V1 LED. A failure on T21 – T22 switches off LED V2.  
 On manual reset mode, if the reset contact is welded, only the LED V1 lights up.

## 4. Technical features

Power supply	24 VDC +/- 15 %
Power consumption	Inrush < 300 mA / stand-by < 160 mA
Safety outputs	AC1 8A-250V / AC15 5A-250V DC13 5A-24V
Electrical protection	DLC=350mA / VA1/A2 max=40 V
Temperature	-20 °C / +60 °C
LED status display	1 LED ON + 2 LEDs for the channels
Protection class	IP 20
Dimensions W x D x H	45 x 100 x 111mm
Weight	310 g
Min. current	5 mA / 5Vdc

## 5. Notice

It is strongly advised to install a 400 mA fuse between A1 and the power supply in order to avoid damages related to a misuse. It is also advised to install a 8 A fuse on each safety output.  
 When an inductive load is applied on the safety outputs, a specific filter should be installed on the safety outputs to allow a correct functioning with an alternative voltage or install a free-wheeling diode if the voltage is DC.

## 6. Wiring

